AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of all claims in the application.

Claims 1-50: **(Canceled)**

51. **(Previously presented)** A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:

a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions,

each region comprising an electrode and a self-assembled mixed monolayer comprising

i) blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and

ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;

wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid;

wherein at least two different regions comprise different probe nucleic acids;

b) adding an agent that distinguishes between single and double stranded nucleic acids; and

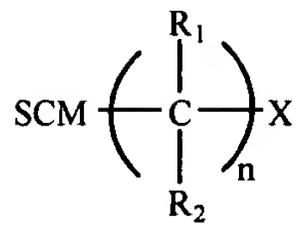
c) detecting the presence of said first hybridization complex.

52. **(Previously presented)** A method according to claim 51,wherein said first end of said blocking moieties is attached to said electrode via a sulfur linkage.

53. **(Previously presented)** A method according to claim 52, wherein said first end of said linker is attached to said electrode via a sulfur linkage.

54. **(Previously presented)** A method according to claim 51, 52, or 53, wherein said electrode comprises gold.

55. **(Previously presented)** A method according to claim 51, wherein said blocking moieties have the formula:



wherein

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;

R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups;

n is an integer from 3 to 50; and

X is a terminal group.

56. **(Previously presented)** A method according to claim 55, wherein R_1 and R_2 are hydrogen.

57. **(Previously presented)** A method according to claim 56, wherein said blocking moieties comprise alkyl groups.

58. **(Previously presented)** A method according to claim 54, 55, or 56, wherein n is ≥ 6.

59. **(Previously presented)** A method according to claim 51,wherein said blocking moiety is a branched molecule.

60. **(Previously presented)** A method according to claim 59, wherein said blocking moiety is a straight chain alkyl group.

61. **(Previously Amended)** A method according to claim 60, wherein said alkyl ranges from 1 to 20 carbon atoms.

62. **(Previously presented)** A method according to claim 51, wherein said array comprises a plurality of different blocking moieties.

63. **(Previously presented)** A method according to claim 62, wherein at least one of said blocking moieties is a branched molecule.

64. **(Previously presented)** A method according to claim 66, 62 or 63, wherein at least one of said blocking moieties is an alkyl group.

65. **(Previously presented)** A method according to claim 55, wherein for said blocking moiety,

SCM is a thiol containing moiety;

R_1 and R_2 are hydrogen;

n is 16; and

X is hydroxyl.

Claim 66 **(Canceled)**

67. **(Previously presented)** A method according to claim 51, wherein said linker moiety is a straight chain alkyl group.

68. **(Previously presented)** A method according to claim 67, wherein said alkyl group ranges from 1 to 20 carbon atoms.

69. **(Previously presented)** A method according to claim 51, wherein for said linker moiety,

SCM is a thiol containing moiety;

R_1 and R_2 are hydrogen;

n is 16; and

Y is oxygen.

Claim 70 **(Canceled)**

71. **(Currently Amended)** A method according to claim [[70]] 69, wherein R_1 and R_2 are hydrogen.

72. **(Currently Amended)** A method according to claim [[51]] 55, wherein n is ≥ 6.

Claim 73 **(Canceled)**

74. **(Previously presented)** A method according to claim 51, wherein said blocking moiety comprises a phosphorus-containing moiety.

75. **(Previously presented)** A method according to claim 51, wherein said nucleic acid is attached to said linker at a 2' position of a ribose.

76. **(Previously presented)** A method according to claim 51, wherein said nucleic acid is attached to said linker at a 3' position of a ribose.

77. **(Previously presented)** A method according to claim 51, wherein said nucleic acid is attached to said linker at a base of said nucleic acid.

78. **(Previously presented)** A method according to claim 51, wherein said nucleic acid is attached to said linker at a phosphate linkage of said nucleic acid.

79. **(Previously Presented)** A method according to claim 51, wherein said agent is an intercalating agent.

80. **(Previously presented)** A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:

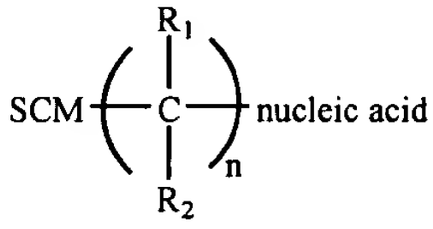
a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions, each region comprising an electrode and a self-assembled mixed monolayer comprising

i) blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and

ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;

wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid; and

wherein said modified nucleic acid the formula:



wherein:

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;

R_1 and R_2 are independently selected from the group consisting of hydrogen and

substituent groups; and

n is an integer from 3 to 50; and

wherein at least two different regions comprise different probe nucleic acids;

b) adding an agent that distinguishes between single and double stranded nucleic acids; and

c) detecting the presence of said first hybridization complex.

81. **(Previously Presented)** A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:

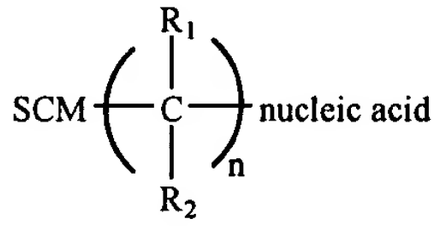
a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions, each region comprising an electrode and a self-assembled mixed monolayer comprising

i) branched molecule blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and

ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;

wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid; and

wherein said modified nucleic acid the formula:



wherein:

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;

R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups; and

n is an integer from 3 to 50; and

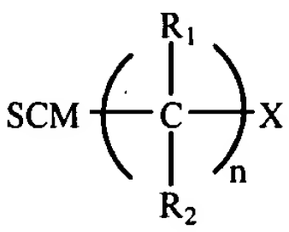
wherein at least two different regions comprise different probe nucleic acids;

b) adding an agent that distinguishes between single and double stranded nucleic acids; and

c) detecting the presence of said first hybridization complex.

82. **(Previously Presented)** A method according to claim 80 or 81 wherein said first end of said blocking moieties is attached to said electrode via a sulfur linkage.

83. **(Previously Presented)** A method according to claim 80 or 81 wherein said blocking moieties have the formula:



wherein

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;

R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups;

n is an integer from 3 to 50; and

X is a terminal group.

84. **(Previously Presented)** A method according to claim 80, wherein said blocking moiety is a branched molecule.

85. **(Previously Presented)** A method according to claim 80 or 81, wherein said array comprises a plurality of different blocking moieties.

86. **(Previously Presented)** A method according to claim 80 or 81, wherein for said linker moiety,

SCM is a thiol containing moiety;

R_1 and R_2 are hydrogen;

n is 16; and

Y is oxygen.

87. **(Previously Presented)** A method according to claim 80 or 81, wherein n is ≥ 6.

88. **(Previously Presented)** A method according to claim 80 or 81, wherein said blocking moiety comprises a phosphorus-containing moiety.

89. **(Canceled)**

90. **(Previously Presented)** A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a 2' position of a ribose.

91. **(Previously Presented)** A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a 3' position of a ribose.

92. **(Previously Presented)** A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a base of said nucleic acid.

93. **(Previously Presented)** A method according to claim 80 or 81, wherein said agent is an intercalating agent.